Listing of Claims:

1. (previously presented) A separator for a lithium polymer battery comprising:

a membrane having a first surface, a second surface, and a plurality of micropores extending from the first surface to the second surface;

a coating, the coating covering the membrane, but not filling the plurality of micropores, the coating comprising a gel-forming polymer and a plasticizer in a weight ratio of 1:0.5 to 1:3, and having a surface density of 0.4 to 0.9 mg/cm^2.

2. (original) The separator of claim 1 wherein the coating covers the first surface and the second surface.

3. (original) The separator of claim 1 wherein the gel-forming polymer is a copolymer of polyvinylidene fluoride.

4. (original) The separator of claim 3 wherein the comonomer content of the polyvinylidene fluoride copolymer comprises about 3-20% by weight.

5. (original) The separator of claim 4 wherein the comonomer content comprises about 7 to 15% by weight.

6. (original) The separator of claim 4 wherein the comonomer is selected from the group consisting of hexafluoropropylene, octofluoro-1-butene, octofluoroisobutene, tetrafluoroethylene, and mixtures thereof.

7. (original) The separator of claim 6 wherein the copolymer of polyvinylidene fluoride is polyvinylidene fluoride: hexafluoropropylene in which the hexafluoropropylene comprises about 9% by weight.

8. (original) The separator of claim 1 wherein the ratio is 1:2.

9. (canceled)

10. (previously presented) The separator of claim 1 wherein the coating has a surface density of 0.55 to 0.7 mg/cm^2.

11. (original) The separator of claim 1 wherein the plasticizer is selected from the group of phthalate-based esters, cyclic carbonates, polymeric carbonates, and mixtures thereof.

12. (original) The separator of claim 11 wherein the phthalate based esters includes dibutyl phthalate.

13. (original) The separator of claim 11 wherein the cyclic carbonates are selected from the group consisting of ethylene carbonate, propylene carbonate, butylene carbonate, and mixtures thereof.

14. (original) The separator of claim 1 wherein the membrane is a single layer microporous membrane.

15. (original) The separator of claim 1 wherein the membrane is a multi-layered microporous membrane.

16. (original) The separator of claim 15 wherein the membrane is a tri-layer separator having a polypropylene/polyethylene/ polypropylene structure.

17. (original) The separator of claim 1 wherein the membrane is a shutdown membrane.

18. (original) The separator of claim 1 wherein the membrane contains an ultra high molecular weight polyethylene.

19. (previously presented) A method of making a separator for a lithium polymer battery comprising the steps of:

providing a microporous membrane having a plurality of micropores;

providing a solution, the solution comprising a gel-forming polymer, a plasticizer, and a solvent, the solution concentration being > 1% by weight;

coating the solution onto the membrane to have a surface density of 0.4 to 0.9 mg/cm^2;

driving off the solvent of the solution; and

forming thereby a coating covering the membrane, but not filling the plurality of micropores.

20. (original) The method of claim 19 wherein the solution concentration ranges from about 2 to 4% by weight.